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## **SOME OBSERVATIONS ON THE EFFICACY OF THE HEMI-SYNC® SYNTHESIZER**

*by Michael Hutchison*

*[Ed. This information discusses the use of the synthesizer, but using Hemi-Sync CDs should have the same effect.]*

*Michael Hutchison is the author of Megabrain, an in-depth exploration of the revolution that has been taking place in the understanding of the brain. Megabrain also explores a number of “brain machines”—devices that purportedly deliver the type of brain stimulation that leads to rapid brain growth and expansion of mental capabilities.*

During the fall of 1986 and the spring of 1987, I conducted a series of “Megabrain Workshops” during which participants discussed and had first-hand experiences with a variety of devices to enhance mental functioning described in the book *Megabrain: New Tools and Techniques for Brain Growth and Mind Expansion*. Among these tools were Hemi-Sync tapes and the Hemi-Sync synthesizer. On several occasions I used the synthesizer 202 model, on other occasions the model 201B.

Generally, I connected the synthesizer with a cassette tape deck and large speakers set up facing the participants, the speakers on opposite sides of the room to insure separation of the Hemi-Sync tones. While the audience was arriving and being seated prior to my opening remarks, I played soft music combined with frequencies in the alpha and theta range. I found this produced a feeling of calmness—the participants quickly took their seats and made the transition from the bustling excitement of just-having-arrived to quiet, relaxed attention. There followed a short period during which the participants spontaneously became silent and assumed the upright postures and relaxed, slightly smiling faces of centeredness. After a few minutes of opening remarks, I adjusted the synthesizer to add a beta tone to the slower tones (without explaining what I was doing) and continued with my presentation. I found this helped produce a relaxed, but alert, state in the participants. Later, when I was describing the Hemi-Sync process, I explained what I had done earlier (adding the beta). In many cases, participants remarked they remembered that at that time they felt they had for some reason entered a state of unusual alertness and focus.

In explaining the workings of beat frequencies, I found the synthesizer particularly valuable. I could turn off the music so that only Hemi-Sync tones were audible, and then adjust the balance completely to the left, then completely to the right, and back to the center. This enabled the audience to clearly hear the different frequencies and note that the “beat” was only present when the two frequencies were combined. It was then easier for them to understand

how, when heard through headphones, such beat frequencies could be effective in altering brainwave frequencies.

During the hands-on workshop that followed, I had individual participants listen to the synthesizer through headphones (with and without selected music), encouraging them to choose different frequency settings and to spend sufficient time in each setting to get a feel for how that setting affected them. In general, I found people were able to distinguish and note the different effects of delta, theta, alpha, and beta frequencies, as well as comment about how they felt the different frequencies could have applications in their lives.

For me, the most fascinating result of using the synthesizer in these workshop settings was that with a variety of other devices on hand that influenced brain functioning, I was able to observe the effects of Hemi-Sync when combined with other tools. Once workshop participants were familiar with the nature of Hemi-Sync, many were very eager to explore this sort of combining.

The combinations included the synthesizer with:

### **THE MIND MIRROR**

This EEG provides the user with a full-spectrum, real-time image of the brain wave activity of both brain hemispheres. Users in the workshops were encouraged to explore various self-regulatory techniques (e.g., differing meditation styles, deep breathing, alternate nostril breathing, visualizations) and observe their effects on brain wave activity. Particular emphasis was placed on attempting to increase hemispheric balance, decrease activity in the beta range, and increase amplitude in the alpha and theta ranges.

After spending sufficient time with the Mind Mirror to become familiar with their characteristic brain wave patterns, users were encouraged to put on headphones and listen to various Hemi-Sync frequencies generated by the synthesizer while still hooked up to the Mind Mirror. Virtually immediately, with the user hearing a theta signal, for example, there would be an observable increase in organized theta activity on the Mind Mirror. Since there would always be a number of observers kibitzing, the quick alteration in brain wave patterns that resulted from the Hemi-Sync tones was impressive not only to the user, but also to the observers. The combination of these devices made for a powerful instructional technique. It provided the users an opportunity to explore the various Hemi-Sync frequencies, observe their own brain wave patterns, and make personal associations with the “feeling” of different brain states.

### **THE GRAHAM POTENTIALIZER**

This is a cot that revolves the user through an electromagnetic field. The movement stimulates the vestibular system (by moving the millions of nerve endings in the inner ear) and through it

the cerebellum and the entire brain. In the workshops, users wore headphones and listened to Hemi-Sync while revolving on the GP.

Users found the combination produced profound states of relaxation and led in several cases to experiences that were highly charged emotionally... including spontaneous “being there” relivings of forgotten or repressed past experiences. One woman returned to a childhood trauma involving her mother and emerged from the experience with a feeling she had made an important breakthrough. She had become aware of material she had previously repressed, was able to understand the past in a different way, and was now closer to and more sympathetic to her mother.

The inventor of the GP, David Graham, told me he felt the Hemi-Sync synthesizer worked synergistically with his device, adding to its effectiveness.

## **THE TRANQUILITE**

This combines a featureless visual field (or ganzfeld) with a pink noise generator which effectively blocks out external sound and visual stimuli. This produces, in many users, a “blank-out” effect, when the visual system, with the unvarying input, seems to shut down, creating heightened internal awareness and deep relaxation.

In the workshops, I experimented with substituting Hemi-Sync tones (theta) from the synthesizer for the pink noise, and observed that users very quickly went into the blank-out state. This happened consistently, and I believe Hemi-Sync and the ganzfeld have a potentiating effect. This makes sense, since the ganzfeld seems to produce the blank-out effect as a result of a redirecting of attention by the reticular activating system (similar to a flotation tank or sensory deprivation environment (such as the individual CHEC unit environment at the Monroe Institute)). In the absence of visual stimulation, the sound stimuli of the Hemi-Sync tones increase in effectiveness.

## **HYPNO PERIPHERAL PROCESSING**

This is a series of tapes devised and recorded by Dr. Lloyd Glauberman and neurophysiologist Dr. Phillip Halboth of New York City, intended for listening while in a flotation tank. Drawing on indirect suggestion techniques of Ericksonian hypnosis and the latest research in neurolinguistic processing and lateralization of function in the brain hemispheres, the tapes use a “double induction” method, with two separate fairy-tale type stories being told in each ear, both containing a variety of indirect suggestions. Yet another series of suggestions has been imbedded in the tapes by an imaginative combining and interweaving of words and phrases from the separate sound tracks. I encouraged workshop participants to listen with headphones to these tapes played through the synthesizer (in the delta and theta frequencies). In comparison with those who listened to the tapes without benefit of Hemi-Sync, those who

used Hemi-Sync found the experience more powerful—so powerful, in fact, that several people told me they had profound breakthrough experiences while listening. Clearly the Hemi-Sync tones made listeners more receptive and more open to the reprogramming and behavioral modifications suggested by the tapes.

## **NEUROELECTRIC DEVICES**

Workshop participants experimented with a variety of transcutaneous electroneural stimulation (TENS) devices that have been designed to deliver transcranial electrostimulation (TCES) (i.e., stimulate the brain). These devices differ in number and placement of electrodes, wave form, frequency, and intensity, and include the Alpha Stim, Pulstar, Brain Tuner, Alphasatronics, and Endomax. All the devices seem to enhance mental functioning, through mechanisms that are not completely understood but probably include: stimulating the release of neurotransmitters and neuropeptides associated with various types of learning (e.g., the endorphins, vasopressin, the catecholamines); synchronization of brain hemispheres; entrainment of brain wave activity; and stimulation of the reticular activating system... leading to heightened attention and alertness.

I found that participants varied greatly in their individual perception of TCES—cswmany people had immediate and strong responses, others noticed subtle effects. Some (less than a third) did not seem to be effected by TCES. In such cases, I would often suggest the subject put on earphones and listen to Hemi-Sync tones while still receiving TCES. The users would then usually find that they had become sensitive to the TCES. Others who were quite sensitive to electrostimulation found that combining it with Hemi-Sync tones intensified the experience being produced by the TCES. I suspect that since both Hemi-Sync and TCES produce greater coherence of the brain's electrical activity, the combination of the two modes has a potentiating effect.

On the whole, I found that the combination of Hemi-Sync with other types of brain enhancing technology produced more rapid and intense alterations of consciousness than were produced by the individual devices used alone. These alterations on consciousness were variously described by workshop participants as: “deep meditation” (from meditators with as much as 20 years of meditative experience); dramatic reductions of chronic pain (from several sufferers of arthritis, lower back problems, migraine headaches); intense mental clarity; sudden flashes of insight or “Eureka!” moments;; euphoria; profound relaxation; lucid dreaming; peak experiences; and out- of-body experiences. I did not encounter anyone who had a negative response to the Hemi-Sync experience or to Hemi-Sync combined with other mind-altering tools. Workshop participants were consistently eager to explore the effects of devices used in combination.

Clearly, my observations are subjective and the reports by the workshop participants no more than anecdotal evidence of the effects of the Hemi-Sync synthesizer, alone and in combination. Controlled studies of larger groups could be easily designed and would be extremely valuable.

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